Hispanic Population Growth and Rural Income Inequality

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We analyze the relationship between Hispanic population growth and changes in U.S. rural income inequality from 1990 through 2000. Applying comparative approaches used for urban areas we disentangle Hispanic population growth's contribution to inequality by comparing and statistically modeling changes in the family income Gini coefficient across four rural county types: established Hispanic, rapidly growing Hispanic, rapidly growing non-Hispanic, and slow-growth or declining counties. Results support perspectives that stress growing social heterogeneity for understanding the contribution of minority population growth to inequality, including changes in human capital and industrial restructuring. We find remarkably similar inequality growth across rapidly growing Hispanic and non-Hispanic counties. This suggests that growing rural inequality stems largely from economic expansion and population growth rather than changing Hispanic composition.

Introduction

Rapid growth of the U.S. Hispanic population, especially through immigration, has generated public concern and academic debate about its contribution to income inequality (Reed 2001; Borjas et al. 1997; Lerman 1999). Two general perspectives inform this discussion. The first argues that relatively less educated and unskilled Hispanic immigrants contribute to income inequality because their low levels of human capital restrict their earning power (Borjas 1999). The second perspective argues that structural forces fueling the demand for low-skilled, low-paying jobs are the main cause of income inequality, and the increase in low-skilled immigration simply reflects those forces (Piore 1979).

Empirical trends underlying the debate are clear. From 1990 to 2000 the Hispanic population in the United States increased more than 50 percent and in 2003 officially surpassed non-Hispanic blacks as the nation's largest minority group. Much of this growth resulted from immigration. More than 7 million Latin-American migrants entered the United States during the 1990s, almost doubling the number of foreign-born Hispanics in a single decade. Rapid Hispanic population growth also coincided with rising income inequality. U.S. Census estimates indicate that from 1989 through 1999 the Gini coefficient measuring income inequality among U.S. families increased 7 percent, from .401 to .429 (U.S. Census Bureau 2006). Combined with the 10 percent increase during the

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1980s, this trend of growing inequality represents a reversal of both consistent declines in income inequality during the first four decades of the 20th century and stable levels of low-income inequality registered from 1940 to 1970.

Several studies have attempted to disentangle the connection between Hispanic population growth – especially through immigration – and income inequality (Altonji and Card 1991; Borjas et al. 1996; Bradbury 1996; Chevan and Stokes 2000; Peri 2006). The majority of these analyses, however, have been conducted either at the national level or only for urban areas. Studies of mechanisms under girding rural inequality are relatively rare despite scholarly recognition that the forces fueling income inequality might differ in rural and urban areas (Domazlicky 2005; Kuznets 1955; McLaughlin 2002). Moreover, with few exceptions (Albrecht et al. 2005; McLaughlin 2002) the handful of studies with a specific focus on rural inequality has not paid explicit attention to the impact of changing minority composition and immigration on inequality.

However, understanding this association is increasingly relevant. Data from the 2000 U.S. Census revealed unanticipated and dramatic Hispanic population growth in all U.S. regions but particularly in new rural destinations in the Southeast and Midwest. In fact, in the 1990-2000 decade, the rate of non-metro Hispanic population growth exceeded that of metro counties (Kandel and Cromartie 2004) highlighting the need to expand the geographic focus of most previous ethnic and immigration research. Although often overlooked in current discussions of immigration and economic trends, non-metropolitan counties are not trivial entities, encompassing roughly 77 percent of all U.S. territory and 17 percent of its population. The rapid influx of minority groups in non-traditional destinations has considerable economic and policy ramifications for rural areas.

Accordingly, this research examines the relationship between Hispanic population growth and changes in family income inequality in non-metropolitan counties from 1990 to 2000. Our analytical approach builds on urban-based research linking inequality across local labor markets to differences in the relative supply of immigrants and minorities (Card 2005; Friedberg and Hunt 1995). This approach disentangles the contribution of minority population growth to inequality by generating counterfactual comparisons of inequality trends across labor markets with different population trajectories.

While cities function readily as delineated local labor markets by allowing researchers to compare individual cases (e.g., Card 1990), analysis of more sparsely populated rural areas benefits from grouping areas according to their changing population compositions. Our approach is to create a county-level typology that distinguishes established Hispanic, rapidly growing and recently settled Hispanic, rapidly growing non-Hispanic, and slow-growth or declining populations. We convey trends captured in our typology by mapping several county type distributions and qualitatively describing illustrative cases in each group. The quantitative analysis that follows compares inequality patterns across these four county

types and models such changes according to labor force characteristics, industrial change and additional sources of heterogeneity. Overall, our comparative approach reveals remarkably similar inequality trends across Rapid Growth Hispanic and non-Hispanic rural counties, suggesting that increases in rural inequality are largely the product of economic expansion and population growth and not of increases in Hispanic composition per se.

Recent Rural Hispanic Population Growth

U.S. Census estimates reported in Table 1 show that the non-Hispanic non-metro population[1] was relatively stagnant in the 1980s, with a growth rate well below metro areas. This pattern changed significantly during the 1990s, when non-metro population grow revived to more than 8 percent and rivaled the growth in metro areas. This increase in population growth was even more dramatic among Hispanics, whose non-metro numbers grew 27 percent during the 1980s (relative to 56 percent in metro areas) and 67 percent during the 1990s, surpassing the 57 percent growth registered in urban areas and accounting for more than 25 percent of all non-metropolitan population growth (Kandel and Cromartie 2004; Kirschner et al. 2006).

These general trends mask considerable variation across regions. Particularly striking was the growth of Hispanic populations outside traditional destination areas in the Southwest, where the majority of rural Hispanics have resided since the turn of the century. Media reports have illustrated dramatic examples of Hispanic influx in places such as Dalton, Georgia; Storm Lake, Iowa; and Siler City, North Carolina, and a growing body of ethnographic research documents the mixed reception Hispanics typically receive in small communities with little experience or few public programs to assist foreign-born newcomers (Goździak and Martin 2005; Griffith 1995; Kandel and Parrado 2004, 2005; Zúñiga and Hernández-León 2005; Massey 2008).

Table 1 illustrates these changes. From 1990 to 2000, nonmetropolitan Hispanics increased 35 percent in the Southwest,[2] 113 percent in the Midwest, 81 percent in the West, and a staggering 204 percent in the South. Most of the growth and dispersion of the Hispanic population was driven by the foreign born. In the South during the 1990s, for example, the native Hispanic population in the South grew 38 percent compared to an astounding 211 percent among the foreign born, explaining over 82 percent of total Hispanic population growth in the region. The majority of the foreign born (60 percent) entered the United States after 1990, and 40 percent entered between 1995 and 2000. A similar pattern occurred in the Midwest, where the growth rates of native and foreign born Hispanics were 53 and 206 percent, respectively. The growth of the foreign population explains the majority of the growth (61 percent) of the Hispanic population in the Midwest with 46 percent entering the United States after 1990. The main implication for our purposes is that understanding the role of Hispanic

Table 1: Hispanic and Non-Hispanic Population Growth by Metropolitan Status and Region

	Total Population	% Change	% Growth across U.S. Regions				
			Northeast	Midwest	South	West	Southwest
Non-Hispanics							
Metro							
1980	163,899						
1990	177,360	8.2	.5	1.8	14.3	16.9	16.0
2000	193,133	8.9	2.4	6.1	14.3	19.0	9.4
Nonmetro							
1980	48,038						
1990	48,995	2.0	4.0	-2.3	2.8	8.1	6.8
2000	52,983	8.1	4.1	4.4	9.5	16.7	13.0
Hispanics							
Metro							
1980	13,111						
1990	20,452	56.0	44.0	36.0	73.5	62.2	59.9
2000	32,130	57.1	38.9	78.0	93.1	129.6	50.1
Nonmetro							
1980	1,498						
1990	1,902	27.0	71.2	25.8	1.2	54.8	26.8
2000	3,176	66.9	72.3	113.2	204.0	81.1	35.3

Source: U.S. Census, SF1 files, 1980-2000

Note: Regions are census regions, except for the Southwest which borrows from the West and the South and consists of Arizona, California, Colorado, New Mexico and Texas.

population growth on economic outcomes overlaps with understanding the effect of immigration which has been the primary contributor to the growing Hispanic population in new areas of destination and the leading force affecting social heterogeneity. The rapidity and magnitude of these changes highlights the need to evaluate their impact on inequality in rural America.

Hispanic Population Growth and Social Heterogeneity

Much empirical scholarship has analyzed the forces fueling inequality. Because we consider the particular phenomenon of Hispanic population growth within a mostly non-Hispanic rural population, our analysis builds on elaborations that stress the role of social heterogeneity to explain cross-sectional variation in inequality and their evolution over time. These articulations began with Kuznets' (1955) work and later received expanded treatment by Nielsen and colleagues (Nielsen 1994; Nielsen and Alderson 1997; Nielsen and Alderson 2001; Moller et al. forthcoming). A central tenet of this perspective is that inequality is "generated by social heterogeneity related to a specific stage of the development process."(Nielsen 1994:655) Rather than expecting monotonic growth or decline in inequality with economic development, this perspective emphasizes transitional aspects of growth that enlarge economic disparities. The

main expectation is that any dimension associated with economic growth that is unevenly distributed across individuals and affects their income prospects will translate into inequality (Nielsen and Alderson 1997).

The classical example of a transitional mechanism affecting inequality is sector dualism. According to Kuznets (1955), population shifts between a traditional and a modern sector of the economy produce an inverted U-shaped relationship between development and inequality. Specifically, shifting a society's labor force from a traditional agricultural sector with low productivity and wages to a modern sector with high productivity and wages is expected to affect the evolution of income inequality over time. Low levels of inequality prevalent among agricultural societies are predicted to increase as employment shifts to the higher paying modern sector during early stages of development. Inequality is expected to peak at intermediate levels of development and ultimately decrease at some advanced stage when substantial portions of the population are employed in the modern sector.

The predicted Kuznetsian pattern of declining inequality at advanced levels of economic development was supported in studies of the evolution of inequality across U.S. counties (Nielsen and Alderson 1997). However, the reversal in the evolution of income inequality in recent decades highlights the importance of other sources of heterogeneity in affecting inequality trends, including educational composition, industrial structure and demographic change (Nielsen and Alderson 1997). Given our focus on the role of growing Hispanic representation, we concentrate on transitional mechanisms that could account for the role of minority population growth on income inequality across rural areas. In general the connection between inequality and heterogeneity suggests that rapid population growth, especially of low-skilled minority groups, should contribute to inequality (Chenery et al 1974; McNicoll 1984). The mechanisms, however, are diverse and depend on the forces attracting people to rural areas.

Two general sources of heterogeneity are central to our analysis (Chevan and Stokes 2000; Katz and Murphy 1992). The first, often associated with supply-side explanations that link Hispanic population growth with income inequality, is growing heterogeneity in population composition, specifically human capital endowments, foreign-born status and family structure. The general expectation is that Hispanic population growth expands the supply of low-skilled workers, altering the composition of the labor force and thereby fostering inequality. This is particularly so for human capital endowments. Among rapidly growing rural counties the sudden influx of immigrant Hispanics expands the lower end of the educational distribution, potentially contributing to inequality. Borjas (1999), for example, finds that between 1980 and 1995 immigration increased the number of high school dropouts by 21 percent, a period during which dropouts' wages fell 11 percent relative to more educated workers. At the other end of the educational distribution, rural counties attracting highly skilled professionals could also experience growing inequality (McLaughlin 2002).

In addition, the Hispanics moving to new rural destinations during the past two decades tend to be primarily of immigrant origin (Kandel and Cromartie 2004). Foreign-born status often embodies several detrimental labor market characteristics, including less English fluency, less U.S. work experience, and, frequently, unauthorized status. The increasing heterogeneity resulting from the growing relative representation of foreign-born groups in rural counties is also expected to contribute to inequality.

The final supply-side process affecting inequality associated with minority population growth relates to changes in demographic composition, particularly age and family structure. In general, the life-cycle profile of earnings implies that the relative growth of the population at older ages should contribute to income inequality due to relatively higher earnings exhibited among older working age groups (Formby et al. 1989). This effect, however, might be mitigated in rapidly growing Hispanic counties because Hispanics, especially immigrants, are younger than the general population. Hispanic population growth is also likely to alter the family structure of receiving counties, including the proportion of female-headed households and patterns of female labor force participation. Disadvantages affecting female-headed households imply that their growing representation should also contribute to income inequality (Snyder and McLaughlin 2004). At the same time, female labor force participation represents an important source of family income that compensates for individual income disparities and thus reduces inequality (Cancian and Reed 1998). Female employment, however, is lower in Hispanic families, reducing its potential to abate inequality in rapidly growing Hispanic counties compared to other counties.

The second general source of heterogeneity, often associated with demand-side explanations linking Hispanic population growth and income inequality, is growing heterogeneity in the sectoral composition of employment and industrial restructuring. The main expectation is that the changing industrial composition of rural counties will contribute to inequality above and beyond changes in the socioeconomic characteristics of the labor force. Numerous studies have linked industrial restructuring to growing inequality (Harrison and Bluestone 1990; Morris et al. 1994; Neilsen and Alderson 1997; Chevan and Stokes 2000; McLaughlin 2002). These studies stress that the shifts in employment away from manufacturing and toward services increases income inequality. The main expectation here is that manufacturing employment reduces inequality due to its relatively high level of productivity and unionization, which provide the means and incentives for corporations to pay high wages even to low-skilled workers. This was in fact the case for immigrants and minorities during the early 20th century, when manufacturing employment facilitated access into the middle class. We expect the decline in manufacturing to reduce the number of good jobs available to low-skilled workers and thus to increase inequality.

While much of this literature emphasizes the dichotomy between manufacturing and service sectors, applying the industrial restructuring framework to rural areas

requires special attention to industries attracting low-skilled Hispanics, including foreign-born workers to non-metropolitan counties. This comprises changes not only in manufacturing and services, but also in agriculture and construction. Given the emphasis on the characteristics of jobs available within these sectors, including constraints on wage increases and union protection, we expect that increases in agricultural and construction employment, as well as service industry employment, would contribute to inequality in rural areas, relative to manufacturing employment.

The literature documents other socioeconomic sources of heterogeneity affecting inequality (Barro 2000; McLaughlin 2002; Martin 2006) including growth of the non-Hispanic black population, unemployment, median family income, labor force size and prevalence of full time employment. Key among these factors is family income because it directly ties with Kuznets' argued link between economic growth and income inequality. Although we control for such mechanisms in our statistical analysis, they are not the focus of our study. Rather, we emphasize the role of changing supply and demand conditions, because they directly address the unresolved issue of whether it is Hispanic population growth per se or broader economic changes that account for inequality trends in rapidly growing Hispanic destinations.

Analytic Strategy: Counterfactual Comparisons and Rural County Inequality

One challenge for our analysis is the difficulty of separating the unique impact of Hispanic population growth from broader processes of socioeconomic change in rural counties. One approach is to include a measure of the changing Hispanic composition in a county and estimate its effect on income inequality. This option is unlikely to capture the dramatic changes of new rural Hispanic destination areas because the number of emerging rural Hispanic counties is not large, and effects might not be captured with a continuous measure of change in Hispanic representation across all rural U.S. counties. Moreover, such an analysis does not provide straightforward comparisons across rural areas experiencing dissimilar population trends.

An alternative approach, to identify counties with different labor market structures and relate trends in inequality to their particular population trajectories, has been applied extensively in metropolitan studies of the impact of immigration on natives' wages (Card 1990, 2005; Friedberg and Hunt 1995). This analytical strategy compares the local wage structure across cities with large and small influxes of immigrants. This approach is particularly advantageous in our case because it generates clear counterfactuals that permit comparison of changes in inequality across rural areas that have recently received a large influx of Hispanics against those that did not. It also allows for a deeper and broader understanding of the transformations occurring in rural areas by distinguishing demographic and economic patterns associated with changes in minority composition. In addition, it can be used to geographically locate different local labor markets with particular population trajectories and thereby identify the regional concentration of the economic and social transformations affecting rural areas.

While cities function naturally as local labor markets, facilitating individual case comparisons, rural area comparisons are less straightforward. Our approach is to construct a rural county typology that distinguishes distinct population trajectories from 1990 to 2000. The typology combines three factors: Hispanic share of 1990 county population, the change in county Hispanic share from 1990 to 2000, and total 1990-2000 county population change. Together, these factors produce four county types: (1. counties with established Hispanic populations, (2. counties with rapid Hispanic population growth in regions with little previous Hispanic presence, (3. counties that grew rapidly but do not have sizeable Hispanic populations, and (4. demographically stagnant counties.[3] Comparing inequality across these county types, especially between Rapid Growth Hispanic and Rapid Growth Non-Hispanic, is our main objective.

Data and Methods

Data for this analysis come from the 1990 and 2000 U.S. Census SF3 files. The unit of analysis is the non-metropolitan county as defined in 2003 (see footnote 1). The dependent variable is the change in Gini coefficient for family income from 1990 to 2000. We focus on family rather than individual inequality because it more directly reflects overall population well-being, especially for women and children.

Sociologists have long debated appropriate statistical approaches for analyzing socioeconomic change when the dependent variable is measured at two points in time, and in particular how best to account for omitted variables in panel data designs. Two methods most commonly proposed are: the lagged-regressor variable method, in which the dependent variable measured at time 2 (Y_2) is regressed on the dependent variable measured at time 1 (Y_1) and additional covariates (X); and the difference score method, in which the time 1 score is subtracted from the time 2 score (Y_2-Y_1) and then regressed on X. It is important to note that the regression of Y_2-Y_1 on both Y_1 and X is computationally equivalent to the regressor variable method and produces the same results (see Allison 1990; Werts and Linn 1970).

The literature further distinguishes pure-difference from semi-difference models depending on how the predictor variables (X) are specified. In the pure-difference model, the change score (Y_2-Y_1) is regressed on the difference score of the independent variables (X_2-X_1). In the semi-difference model, the change score is regressed on the level of the predictor variables at time 1 (X_1) which more closely resembles the lagged-regressor variable method in which predictors are measured at time 1.

Both for methodological and theoretical reasons Allison (1990) and Firebaugh and Beck (1994) support the pure-difference approach. Methodologically, the pure-difference model eliminates the potential bias due to omitted variables. Unmeasured enduring traits of individual counties are removed when differentiating both the dependent and independent variables because constant effects get cancelled out. Theoretically, model choice depends on the causal connection expected between

the variables. The lagged-regressor variable model assumes a temporal ordering from Y_1 to X_1 to Y_2 which is not appropriate in two-wave panel designs in which X is measured contemporaneously with Y at both time points (Allison 1990).

In addition, Firebaugh and Beck (1994) argue that the theoretical argument for expecting the level of the independent variables at time 1 to affect change in the dependent variable is unclear. They show that a semi-difference model also implies that a change in Y is caused by a change in X and Y but during the previous interval. A semi-difference model assumes that the effect of a change in X lies dormant for a period before affecting Y. The extent and rationale for the dormancy period is usually unclear. Especially if the interval in a pure difference model can be extended beyond the expected dormancy period, regressing difference scores on change in the levels of the independent variables more appropriately estimates the causal connection between Y and X in two panel designs (Allison, 1990).

Accordingly, we specify a pure difference model which predicts change in income inequality between 1990 and 2000 according to four types of independent variables: rural county types (T), changing population composition (P), changing industrial composition (I), and other sources of heterogeneity (O). Our working equation is:

$$Y_{00}\text{-}Y_{90} = B_0 + B_1T + B_2\Delta P_{00\text{-}90} + B_3\Delta I_{00\text{-}90} + B_4\Delta O_{00\text{-}90} + e$$

where the dependent variable (Y_{00}-Y_{90}) corresponds to the arithmetic difference between the 2000 and 1990 Gini Concentration Ratios computed for family income by county. We estimate our models using OLS techniques.

To assess the robustness of our results to model specification, we tested additional models, including a lagged-regressor model where Y_{00} was regressed on Y_{90} and the change in independent variables, as well as a complete semi-difference model in which Y_{00}-Y_{90} was regressed on the change between 1990 and 2000 and the level of independent variables in 1990. While the magnitude of the coefficients differs, results do not change our substantive findings, especially the role of county types and changing socioeconomic conditions on rural county inequality.[4]

Independent Variables

Rural County Types

Table 2 summarizes the criteria used for the construction of our county typology. *Established Hispanic Counties* were at least a 10 percent Hispanic in 1990. *Rapid Growth Hispanic Counties* were less than a 10 percent Hispanic in 1990 and saw their percent Hispanic increase by more than 2.5 percentage points between 1990 and 2000. *Rapid Growth Non-Hispanic* were less than 10 percent Hispanic in 1990, saw their percent Hispanic increase by less than 2.5 percentage points between 1990 and 2000, but experienced overall population growth exceeding 17 percent. Lastly, *Slow Growth and Decline Counties* were less than 10 percent Hispanic in 1990, saw their percent Hispanic increase by less than 2.5 percentage

Table 2: Criteria for Non-metro County Typology

County Type	% Hispanic Composition 1990	Change in % Hispanic 1990-2000	% Growth in Total Population 1990-2000
Established Hispanic counties	⩾ 10		
Rapid growth Hispanic counties	< 10	⩾ 2.5	
Rapid growth non-Hispanic counties	< 10	< 2.5	⩾ 17
Slow growth & decline counties*	< 10	< 2.5	< 17

*Refers to the total county population, including any Hispanic population

points between 1990 and 2000, and experienced overall population growth of less than 17 percent. The cut-off points for Hispanic composition in 1990, difference in percent Hispanic (1990-2000), and population growth (1990-2000) correspond to the variable means plus one half their standard deviations.

Changing Population Composition: Education, Foreign-born Status and Family Structure

To account for the impact of heterogeneity in population composition on inequality, our statistical model includes measures of change in educational composition, foreign-born representation, and demographic and family change in rural counties. We include two variables measuring 1990-2000 change in the share of the population with less than a high school education and at least a four-year college degree. We expect these variables to be positively associated with growing inequality, relative to expansion at the intermediate levels of education, since they directly measure increased heterogeneity in educational endowments. Moreover, given relatively low average education levels among Hispanics, we expect growth of the less educated population to mediate the impact of Hispanic population growth on inequality. In addition, we include a measure of counties' 1990-2000 change in foreign-born composition. Because immigrants typically occupy lower labor market positions, we expect a growing immigrant population to increase inequality. Finally, three variables capture the effect of changing age and family structure on income inequality. Change in the percent of the population age 65 and older and of female-headed households are expected to positively affect income disparities since they increase the heterogeneity of low and high-income groups. In turn, greater female labor force participation, an important contribution to family income, is expected to reduce income inequality.

Changing Industrial Composition

We measure change in non-metro county industrial composition by the difference between the 1990 and 2000 proportions of the employed population working in eight mutually exclusive, all-encompassing sectors. We derive these sectors by combining and expanding the 13 industrial sector categories in the United States:

manufacturing is divided into durable and nondurable goods manufacturing, and non-durable goods manufacturing is further divided by extracting a critical rural employer of low-skilled foreign-born workers, meat processing, which is roughly 7 percent of that sector's employment.[5]

We group rural industries into those with declining and growing representation to facilitate discussion of their effects. The former include: agriculture/mining, non-durable goods manufacturing, durable goods manufacturing, and trade/wholesale/retail trade. The latter include: construction, meat processing, low-skilled services/transportation, and high-skilled services/communication/finance/insurance/real estate/and public sector employment. We expect patterns of growth and decline to be central factors accounting for differential change in inequality across county types.

Other Sources of Heterogeneity: Control Variables

Our models control for other sources of heterogeneity that previous studies have found to explain cross-sectional inequality, in order to obtain net estimates of the effect of changes in socioeconomic characteristics of the labor force and industrial representation on inequality. To account for larger demographic trends in minority composition, particularly in large areas of the rural South, we control for 1990-2000 growth of the black population. To control for economic climate apart from industrial composition, we include variables measuring the arithmetic change in the civilian non-institutional unemployment rate, log of median family income, and total 1990-2000 employment rate. Finally, we control for census region to account for geographic variation in inequality. Appendix I reports descriptive statistics for all variables by county type.

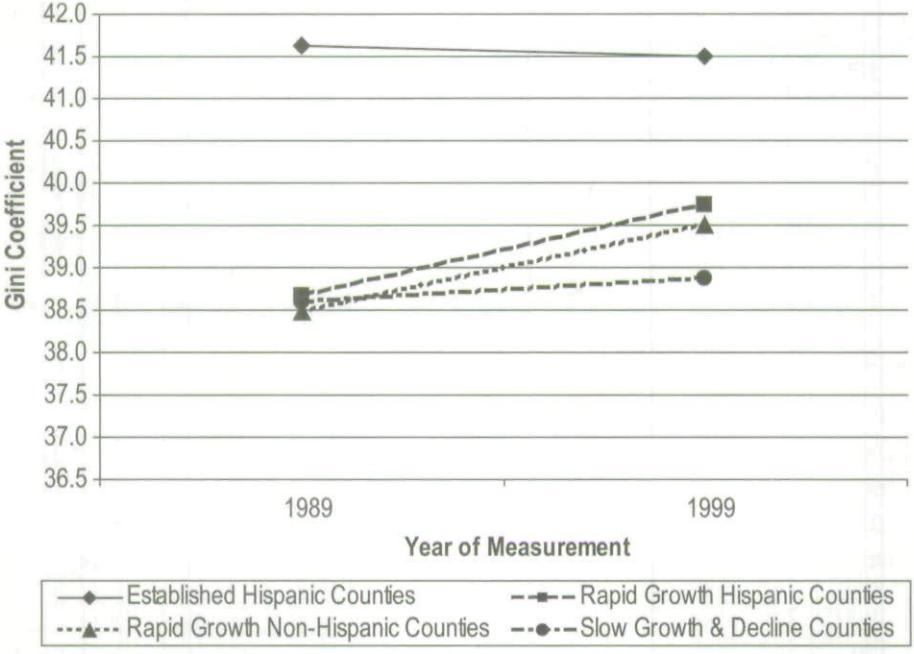
Descriptive Results: Rural County Population Trajectories and Inequality

Trends in Inequality and Labor Force Characteristics across County Types

Trends in inequality differ considerably across county types, as seen in Figure 1, which plots Gini coefficients in 1989 and 1999 across the typology. While inequality fell slightly (from initially high levels) in established Hispanic counties, Slow Growth counties witnessed modest increases in inequality over the period. Rapid Growth Hispanic and Rapid Growth Non-Hispanic counties, on the other hand, show substantial increases in inequality, with Gini coefficients rising 2.7 and 2.5 percent, respectively, during the period.

The county types also vary markedly with respect to changes in supply- and demand-side conditions, two constructs central to the independent variables in our analysis. Table 3 presents descriptive statistics for 1990-2000 changes in educational composition, percent foreign-born, age and family structure, and industrial composition over time. The right hand panel in Table 3 compares trends for each county type in reference to Slow Growth and Decline counties.

Figure 1. Gini Coefficient for Families (County Averages, 1989-1999)



Overall, from 1990 to 2000, Established and Rapid Growth Hispanic counties experienced a significantly slower improvement in educational composition relative to Slow Growth and Decline counties. In the former, the decrease in the percent of the population with less than a high school education was significantly lower than in Slow Growth and Decline counties. Clearly, Hispanic in-migration to new areas of destination has expanded the pool of poorly educated inhabitants. The opposite applies to High Growth Non-Hispanic counties where the percentage of the population with at least a four-year college degree increased significantly faster than among Slow Growth and Decline counties.

Table 3 also shows that among all rural counties, the share foreign-born increased 1 percentage point from 1990 to 2000. Established and Rapid Growth Hispanic counties exhibited much higher growth than the other county types, 2.4 and 3.4 percentage points, respectively. Notably, the foreign-born population grew by a mere .6 percentage points in Rapid Growth Non-Hispanic counties, highlighting the different population basis fueling change across types of rapidly growing rural counties.

Differences also appear for age and family composition trends. As expected the proportion of the population over age 64 declined most in rapidly growing Hispanic and Non-Hispanic counties relative to slow-growth counties. At the same time, female labor force participation increased more slowly in rapidly

growing Hispanic counties relative to slow growth counties. These additional dimensions of heterogeneity are likely to mediate the effect of changing minority composition on income inequality.

Industrial change is more diverse and has a complex effect on inequality which is produced in the balance between growth and decline. Most studies show that growth at the low (i.e., agriculture, construction and low-skilled services) and high

Table 3a: Socieconomic, Industrial and Demographic Change across Rural County Types

	Difference (% in 2000 Minus % in 1990)				
	Total Change	Established Hispanic	Rapid Growth Hispanic	Rapid Growth Non-Hispanic	Slow Growth & Decline
Supply Side Conditions: Population Change					
Change in Educational Composition					
Less than high school	-8.25	**-5.93**	**-6.74**	-9.01	-8.76
College or more	2.63	2.38	2.59	**3.10**	2.59
% Foreign born	.98	**2.39**	**3.41**	.58	.38
Change in Age and Family Structure					
% Aged 65 and older	-.21	.00	**-.86**	**-.54**	-.06
% Female labor force participation	5.53	**5.17**	**4.61**	**5.27**	5.80
% Female headed households	3.13	3.20	3.13	**2.76**	3.20
Demand Side Conditions: Industrial Change					
Industries with Declining Representation					
Agriculture/ Mining	-8.37	**-6.92**	-8.73	**-10.00**	-8.22
Non-durable goods manufacturing	-1.30	**-.07**	-1.08	**-2.20**	-1.36
Durable goods manufacturing	-1.09	-.60	**-1.42**	**-2.00**	-.93
Wholesale and retail trade	-4.57	**-5.51**	**-4.95**	**-4.75**	-4.32
Industries with Growing Representation					
Construction	5.62	**2.70**	**6.76**	**8.82**	5.26
Meat processing	.05	**.08**	**.23**	.02	.02
Low-skill services	7.70	7.74	7.50	**8.44**	7.58
High-skill services/ Public sector	1.97	**2.56**	1.65	1.66	1.99
N	2,303	235	283	282	1,503

Note: Bolded numbers indicate that the 1990-2000 difference relative to Low Growth & Decline Counties is statistically significant ($p < .05$)

Table 3b: Socieconomic, Industrial and Demographic Change across Rural County Types

	Rate of Decline or Growth (Relative to Slow Growth & Decline Counties)		
	Established Hispanic	Rapid Growth Hispanic	Rapid Growth Non-Hispanic
Supply Side Conditions: Population Change			
Change in Educational Composition			
Less than high school	Slower Decline	Slower Decline	
College or more			Faster Growth
% Foreign born	Faster Growth	Faster Growth	
Change in Age and Family Structure			
% Aged 65 and older		Faster Decline	Faster Decline
% Female labor force participation	Slower Growth	Slower Growth	Slower Growth
% Female headed households		Slower Growth	
Demand Side Conditions: Industrial Change			
Industries with Declining Representation			
Agriculture/ Mining	Slower Decline		Faster Decline
Non-durable goods manufacturing	Slower Decline		Faster Decline
Durable goods manufacturing		Faster Decline	Faster Decline
Wholesale and retail trade	Faster Decline	Faster Decline	Faster Decline
Industries with Growing Representation			
Construction	Slower Growth	Faster Growth	Faster Growth
Meat processing	Faster Growth	Faster Growth	
Low-skill services			Faster Growth
High-skill services/ Public sector	Faster Growth		

end (i.e., high-skilled services) of the industrial sector distribution contributes to inequality while employment growth in middle-skill industries (i.e., manufacturing) reduces inequality.

Table 3 shows that agriculture and mining, non-durable goods manufacturing, durable goods manufacturing, and wholesale and retail trade, have declined in rural counties. However, the change differed across county types with important implications for income inequality. Again, relative to Slow Growth and Decline counties, several trends are clear. Established Hispanic counties experienced a slower decline in agriculture/mining and non-durable goods manufacturing but a faster decline in trade activities. They also experienced a slower expansion of the construction industry and a slightly faster expansion of meat processing. Among Established Hispanic counties, the main industry gaining representation was high-skilled industries, driven mainly by a rapid public sector expansion.

We emphasize the comparison of Rapid Growth Hispanic and Non-Hispanic counties. In general, relative to Slow Growth and Decline counties, rapidly growing counties have experienced a much faster decline in the representation of declining industries in their economies. Rapid Growth Non-Hispanic counties saw particularly rapid declines in agriculture/mining, non-durable and durable goods manufacturing, and trade. Similar if less pronounced trends occurred among Rapid Growth Hispanic counties.

Rapidly growing counties have also seen a substantial expansion of construction industry employment share, registering a 6.8 and 8.8 percentage point difference during the 1990-2000 period in Rapidly Growing Hispanic and Non-Hispanic counties, respectively, compared to only 5.2 percentage points among Slow Growth and Decline counties. Rapid Growth Non-Hispanic counties have also experienced a rapid expansion of low-skilled services while Rapid Growth Hispanic counties, in turn, have seen greater expansion of meat processing industry employment share and a slower expansion for high-skilled services.

To summarize, these descriptive results show significantly lower educational improvement and considerably higher expansion of the foreign-born population in Established and Rapidly Growing Hispanic counties. These changes took place against substantial differences in employment shifts between 1990 and 2000 for industries fueling economic expansion. Established Hispanic counties did not reduce their agricultural base as fast as other counties. Among rapidly growing Hispanic and Non-Hispanic counties, the construction industry acted as a leading sector attracting populations in both contexts. At the same time, meat processing industry expansion has been particularly pronounced among Rapid Growth Hispanic counties while low-skilled services experienced above average growth in Rapid Growth Non-Hispanic counties. We expect this complex articulation of change in socioeconomic characteristics of the labor force and industrial composition to account for cross-group differences in changes in inequality.

Geographic Dispersion and Differences in Economic Basis: Case Studies

To better illustrate the economic and demographic profiles of the rural areas in the typology, and the differential impact of industrial restructuring across types, we describe substantively several cases for each county type.

Established Hispanic counties predominate in traditional rural Hispanic settlement areas of the Southwest. In fact, of the top 20 counties most characteristic of this group reported in Table 4, 14 are in Texas and the rest in just three states: New Mexico, Arizona and Colorado. Starr County, Texas is a typical example. It represents a Mexico-U.S. border region characterized by Colonia communities and an extraordinarily high Hispanic representation (97.5 percent). With a relatively impoverished industrial base in extractive industries, agriculture and social service employment, it has ranked for decades among the poorest U.S. counties. Historical antecedents such as party machine politics and the separation of more fertile Brooks County in the early 20th century contributed to the county's entrenched economic weakness. Proximity to Mexico explains why foreign-born individuals make up 37 percent of the population, more than three times the national average. It also explains why socio-demographic indicators such as low median age, large average household size, and low educational attainment and English language proficiency differ notably from other non-metro counties. Forces

Table 4: Top 20 Counties Representing the Four-County Typology

FIPS Code	State	County Name	FIPS Code	State	County Name
Established Hispanic Counties					
48427	Texas	Starr	48377	Texas	Presidio
48323	Texas	Maverick	48505	Texas	Zapata
48247	Texas	Jim Hogg	35047	New Mexico	San Miguel
48047	Texas	Brooks	48261	Texas	Kenedy
48507	Texas	Zavala	4023	Arizona	Santa Cruz
48131	Texas	Duval	48283	Texas	La Salle
35033	New Mexico	Mora	8023	Colorado	Costilla
48489	Texas	Willacy	48389	Texas	Reeves
35019	New Mexico	Guadalupe	35039	New Mexico	Rio Arriba
48127	Texas	Dimmit	48163	Texas	Frio
Rapid Growth Hispanic Counties					
31037	Nebraska	Colfax	37061	North Carolina	Duplin
31047	Nebraska	Dawson	19021	Iowa	Buena Vista
40139	Oklahoma	Texas	5149	Arkansas	Yell
13313	Georgia	Whitfield	8045	Colorado	Garfield
13101	Georgia	Echols	20111	Kansas	Lyon
12027	Florida	DeSoto	16053	Indiana	Jerome
5133	Arkansas	Sevier	27165	Minnesota	Watonwan
13139	Georgia	Hall	53007	Washington	Chelan
20075	Kansas	Hamilton	51640	Virginia	Galax
13003	Georgia	Atkinson	27105	Minnesota	Nobles
Rapid Growth Non-Hispanic Counties					
8039	Colorado	Elbert	12129	Florida	Wakulla
8093	Colorado	Park	25019	Massachusetts	Nantucket
16015	Idaho	Boise	8049	Colorado	Grand
8027	Colorado	Custer	16055	Idaho	Kootenai
21215	Kentucky	Spencer	29213	Missouri	Taney
13085	Georgia	Dawson	8047	Colorado	Gilpin
8053	Colorado	Hinsdale	41017	Oregon	Deschutes
8119	Colorado	Teller	13311	Georgia	White
8091	Colorado	Ouray	29209	Missouri	Stone
49021	Utah	Iron	2170	Arkansas	Matanuska-Susitna
Slow Growth Counties					
32009	Nevada	Esmeralda	38007	North Dakota	Billings
38013	North Dakota	Burke	30033	Montana	Garfield
54047	West Virgina	McDowell	46063	South Dakota	Harding
32021	Nevada	Mineral	38047	North Dakota	Logan
38023	North Dakota	Divide	38001	North Dakota	Adams
38041	North Dakota	Hettinger	38075	North Dakota	Renville
38095	North Dakota	Towner	38043	North Dakota	Kidder
38083	North Dakota	Sheridan	40129	Oklahoma	Roger Mills
38019	North Dakota	Cavalier	31087	Nebraska	Hitchcock
38037	North Dakota	Grant	20065	Kansas	Graham

contributing to reduced income inequality during the 1990s include a 30 percent population increase and declining agricultural employment.

In contrast, Mora County, New Mexico represents an Established Hispanic county with a far more stable population. Despite its overwhelming Hispanic representation (81.6 percent), foreign-born residents make up a remarkably low proportion of the total population (1.7 percent), thereby illustrating sociodemo-

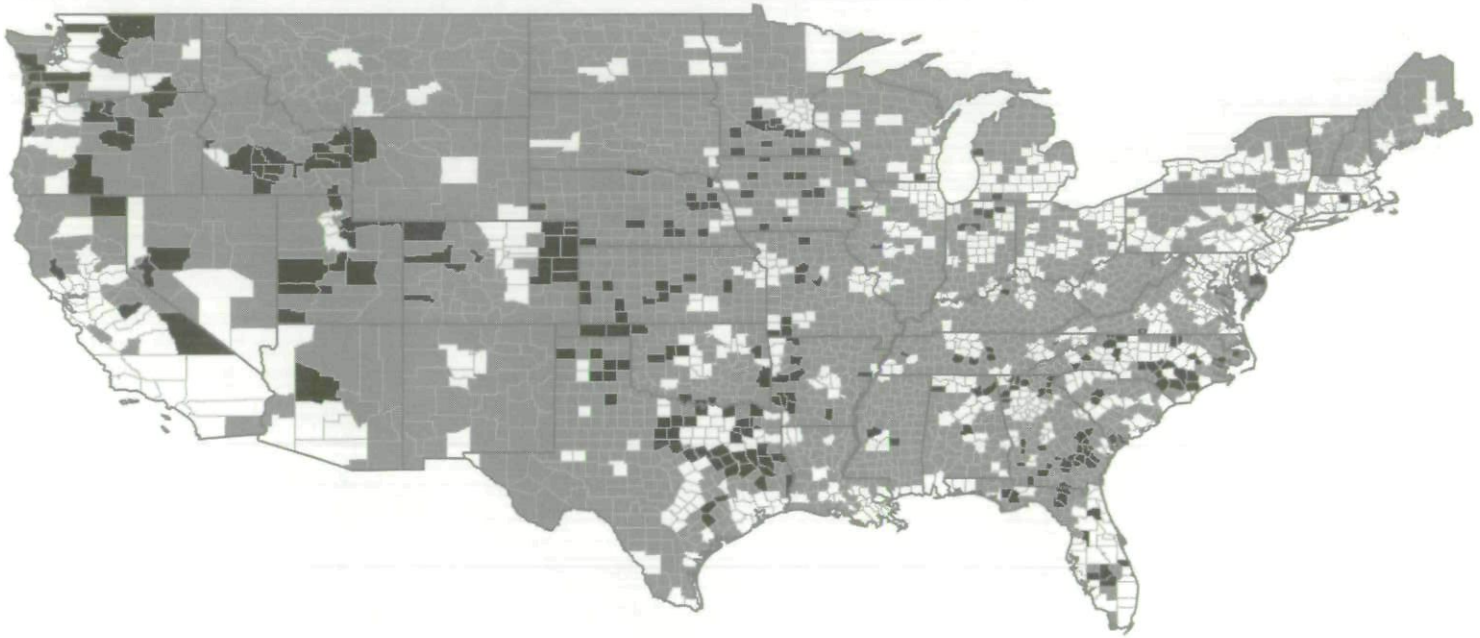
graphic convergence over time with the broader, mostly non-Hispanic U.S. non-metro population. Median age and average household size also strongly resemble the demographic profile of non-metro counties as a whole. While the county's population grew 20 percent during the 1990s, it also became less Hispanic. Declining proportions of high school dropouts, reduced agricultural employment and greater high-skilled service employment helped reduce income inequality in the years 1990-2000.

Slow Growth and Decline counties also concentrate geographically, most visibly in the persistent population loss areas of the northern and central Great Plains, with 13 counties in North Dakota alone (Johnson and Rathge 2006). This group's large number–1,503 counties - highlights the challenges to demographic vitality that rural areas have confronted for decades. For example, Logan County, North Dakota saw its total population decline from 2,847 to 2,308 from 1990 to 2000, and its tiny Hispanic population remain unchanged. Like many North Dakota counties, its population has declined consistently since at least the 1950s, ironically from improvements in agricultural productivity that reduced demand for farm labor. Yet as young adults and their families migrate to urban areas for jobs that reward their increasing educational attainments, they leave a population that, while not impoverished, continues to both diminish and age in place. Other counties have lost population from changes in the global economy. McDowell County, West Virginia, whose population quintupled to about 100,000 by 1950 and which consistently set coal production records, now leads West Virginia counties in population decline and poverty.

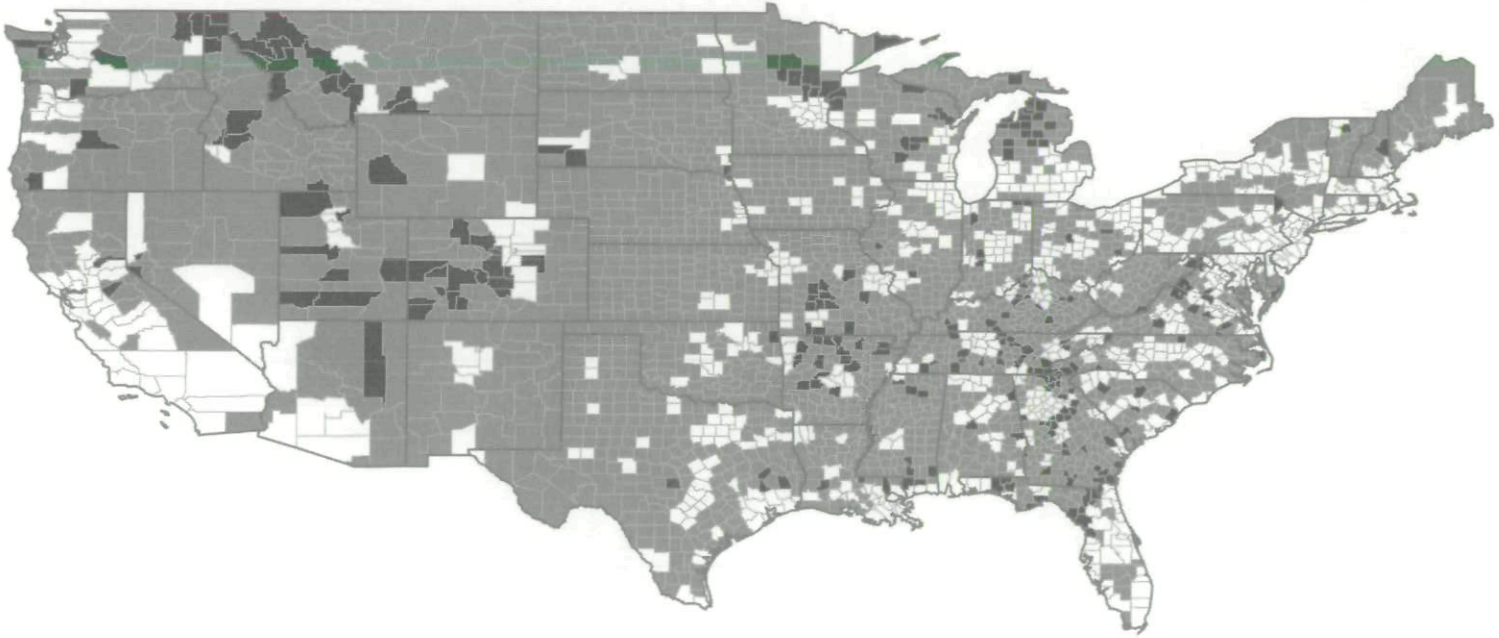
The 283 Rapid Growth Hispanic counties are widely dispersed and reflect areas with above-average employment opportunities. In the Midwest and Southeast, for example, new Hispanic population growth correlates directly with the rural expansion and transformation of beef and poultry processing since 1980 (Kandel and Parrado 2004, 2005). In the Pacific Northwest, Rapid Growth Hispanic counties are closely tied with fruit and vegetable production. In mountain states with booming vacation and retirement communities, such as Idaho and Colorado, Hispanic presence reflects growing service and construction employment. In certain non-metro counties in Georgia, North Carolina and Texas, Hispanic communities reflected labor demand from construction booms in neighboring metropolitan areas in Atlanta, Raleigh-Durham, Dallas-Fort Worth and Houston, respectively.

In Echols County, Georgia, only 8 percent of adults possess a college degree and the poverty rate in 2006 stood at 30 percent. Nevertheless, labor force participation rates match national averages, indicating a relatively large proportion of working poor. In fact, family income inequality in Echols County rose rapidly during the 1990s, caused in part by a shift from seasonal crops such as cotton, corn and peanuts, to year-round crops including bell peppers, tomatoes, squash and carrots. Consequently, former transient migrant workers have settled permanently, swelling the Hispanic population since 1990 from 2 to more than 20 percent of the

Map 1: Rapid Growth Hispanic Counties



Map 2: Rapid Growth Non-Hispanic Counties



county's population. By contrast, the growth of the Hispanic population from 2 to 15 percent in Duplin County, North Carolina during the same period stemmed largely from manufacturing employment in meat and food processing. In addition, the change in employment shares for two low-paying sectors–low-skilled services and construction–increased by 7 and 10 percentage points respectively.

Finally, the 282 Rapid Growth Non-Hispanic counties shown in Map 2 and listed in Table 4 illustrate the geography of recreation and retirement-related non-metro population growth. Counties located in mountainous areas of Idaho, Montana and Colorado, desert areas of Utah, or wooded areas of northern Michigan, for example, score high on the Natural Amenities Index developed by the USDA's Economic Research Service (2004) that measures climate and geophysical variation. Other such counties are concentrated in the Southeast and Gulf Coast.

Grand County, Colorado boasts a dozen national parks, forests, wilderness areas and year-round outdoor recreation. Steady population growth from young family in-migration and recreation seekers has turned the county into a bedroom community of Denver. Not surprisingly, construction and low-skill services showed substantial employment growth during the 1990s. As the median age increased from growth in the baby boomer cohort, income inequality also increased. During this period median home prices almost doubled to $205,000, and median incomes increased 50 percent to more than $55,000, exceeding the national average. Similarly, Deschutes County, Oregon enjoys spectacular scenery, proximity to national parks, numerous golf courses, and a temperate climate that offers rain-weary Portland and Seattle in-migrants sunny, year-round recreation. The county seat of Bend, which has reaped substantial benefits from stringent growth and environmental regulations approved in Oregon during the 1970s, frequently appears on popular lists of the most desirable places to live. Outside of Bend, more affordable real estate markets cater to rapidly growing Hispanic and non-Hispanic communities whose residents often work in construction and low-skilled services.

Multivariate Results

The following multivariate analysis links these transformations to changes in county inequality. Table 5 reports results from three OLS models predicting 1990-2000 change in the county-level Gini coefficient. Following our theoretical discussion, all models include indicators for our four-county typology as well as controls for additional sources of heterogeneity. Model 1 estimates the effect of changes in the socioeconomic characteristics of the labor force. Model 2 estimates the role of industrial change without controls for labor force characteristics. Model 3 includes all predictors. In general, results are consistent across models.

Estimates for the effect of our four-county typology on changes in inequality are of central importance for understanding the unique effect of rapid Hispanic population growth in new areas of destination. Overall, results show that inequality trends in Rapid Growth Hispanic counties do in fact differ from Slow Growth

and Decline counties. Even after controlling for all our independent variables (Model 3), the change in Gini Coefficient 1990-2000 among Rapid Growth Hispanic counties is .62 points higher than among Slow Growth and Decline Counties. However, their trajectory is actually quite similar to that experienced by High Growth Non-Hispanic counties for which the change in Gini coefficient is .64 times higher than among Slow Growth and Decline Counties. The similarity in trends is consistent with the description presented in Figure 1. The fact that the effects remain significant after controlling for all the model indicators reinforces the association between growth, heterogeneity and inequality in rural areas.

Consistent with our expectations, growing heterogeneity in human capital endowments is a central dimension accounting for trends in rural inequality (Model 1) even after accounting for changes in industrial composition (Model 3). Full model estimates show a particularly strong effect for the proportion of the population with college or more education. Results indicate that a 1 percentage point increase (or slower decline) in the proportion of the population with less than high-school education increases the change in Gini coefficient by .068; for college or greater, the effect is .279. The significance of this difference is reinforced by the standardized estimates that show the effects to be .079 for the proportion of the population with less than high-school compared to .189 for the proportion with college or more. The difference in size highlights the importance of growth of the highly educated population to understanding trends in inequality across rural counties.

At the same time, change in the size of the foreign-born population does not appear to have an independent effect on inequality, suggesting that much of the association between immigrant status and inequality is captured by other sources of heterogeneity, including education. Relative increases in the population over 64 and in the percent of female-headed households also contribute to inequality. Faster declines among the older population in rapidly growing Hispanic and non-Hispanic counties imply this effect is mitigated in growing rural areas. Growing female labor force participation also significantly reduces family income inequality. Results (Model 3) indicate that a 1 percentage point increase (or slower decline) in the change in the proportion of the female labor force participation reduces the change in Gini coefficient by .138, and the standardized estimate is -.159, similar in size to the effect of changes in the proportion of the population with a college degree or greater. That female employment increased the least in Rapidly Growing Hispanic counties implies that part of the growing trend in family inequality in these counties reflects lower rates of female labor force participation.

Model 2 estimates the effect of industrial change independent of changes in socioeconomic characteristics. As before, results between models 2 and 3, which includes all predictors, are remarkably consistent. The reference category is percent change in non-durable goods manufacturing employment which is expected to have the most equalizing effect in rural areas. Overall, our analysis supports the association between manufacturing employment and reduced inequality. Relative to

Table 5: OLS Models Predicting Change in Gini Coefficients across Rural Counties: 1990-2000

	Model 1		Model 2		Model 3		
	B	(t-ratio)	B	(t-ratio)	B	(t-ratio)	Standard B
Intercept	1.802**	(4.087)	2.188**	(4.911)	1.589**	(3.372)	
County Type							
Established Hispanic	-.438	(1.435)	-.180	(.611)	-.264	(.863)	-.026
Rapid growth Hispanic	.595**	(2.542)	.652	(3.108)	.615	(2.638)	.066
Rapid growth non-Hispanic	.769**	(3.840)	.573	(2.759)	.640	(3.165)	.069
Slow growth & decline (reference)							
Supply Side Conditions: Change in Population Composition							
Change in Educational Composition							
Less than high school	.061**	(2.854)			.068**	(3.126)	.079
Completed high school (reference)							
College or more	.270**	(8.856)			.279**	(8.950)	.189
Change in % foreign born	.019	(.452)			.029	(.679)	.018
Change in Age and Family Structure							
% Ages 65 and older	.108**	(2.531)			.108**	(2.497)	.056
% Female labor force participation	-.161**	(7.637)			-.138**	(6.378)	-.159
% Female-headed households	.174**	(4.555)			.158**	(4.088)	.087
Demand Side Conditions: Industrial Change							
Industries with Declining Representation							
Agriculture/ Mining			.125**	(5.441)	.115**	(5.065)	.188
Non-durable goods manufacturing (reference)							
Durable goods manufacturing			.043**	(2.341)	.031	(1.728)	.040
Wholesale and retail trade			.070**	(2.773)	.086**	(3.407)	.093
Industries with Growing Representation							
Construction			.150**	(6.606)	.119**	(5.280)	.198
Meat processing			.065	(.450)	.018	(.123)	.003
Low-skill services			.125**	(3.957)	.105**	(3.402)	.086
High-skill services/ Public sector			.090**	(3.876)	.062**	(2.633)	.071
Other Sources of Heterogeneity							

Change in Minority Composition							
% Black	.041	(.942)	.021	(.494)	.057	(1.305)	.027
Change in Employment Characteristics							
Unemployment	.004	(.141)	.044	(1.505)	-.003	(.108)	-.002
Log of median family income	-4.112**	(5.324)	-6.016**	(8.040)	-4.113**	(5.252)	-.122
Total employment	-1.212	(.396)	.597	(.187)	-3.359	(1.076)	-.023
% Employed fulltime	.007	(.392)	-.035**	(1.919)	.001	(.071)	.002
Region							
Midwest	.125	(.469)	-.011	(.042)	.249	(.928)	.039
East/ Southeast	.550**	(2.040)	.377	(1.399)	.436	(1.614)	.070
West	.133	(.447)	.117	(.388)	.129	(.436)	.013
Southwest (reference)							
Adjusted R-squared	.137		.085		.148		

Note: N = 2,303

change in non-durable goods manufacturing, all other industrial sectors significantly contribute to inequality, except for durable goods manufacturing and meat processing.

Results also show that among industries with declining representation agriculture stands out as a key source of inequality. The positive effect of changing agricultural representation (.115) on the Gini coefficient indicates that inequality increased the most among counties with slower declines in agricultural employment, mainly Established Hispanic counties (see Table 3). Changes in wholesale and retail trade also contributed to inequality (.086) relative to non-durable goods manufacturing.

Among industries with growing representation, changes in construction, low-skilled services and high-skilled services have fueled inequality. Construction is particularly important; estimates from Model 3 show that a 1 percentage point increase in construction employment increases the Gini coefficient by .119. In fact, the estimated standardized coefficients (last column of Model 3) show that change in the construction industry generates the largest inequality effect relative to non-durable goods manufacturing (.198) closely followed by agriculture (.188). Results for other industries with growing representation show that the growth of the service industry, both low- and high-skilled, also contributed to inequality relative to non-durable goods manufacturing. The standardized estimate for the effect of low-skilled services shows that the size of its impact is second among industries with growing representation (.086).

Again, the significance of these forces varies considerably across county types. Construction increased very rapidly in

Rapid Growth Hispanic and Rapid Growth Non-Hispanic counties, although the growth was much more pronounced in the latter. The same applies to low-skilled services that tended to increase in all counties but grew substantially higher in High Growth Non-Hispanic counties.

Finally, controlling for other sources of heterogeneity shows that, consistent with findings from previous studies, change in family income is the main factor associated with inequality reduction, reinforcing the importance of broader processes of socioeconomic change for inequality.

Discussion

Rapid Hispanic population growth in all regions of the United States and particularly in new midwestern and southeastern destinations has drawn an extraordinary level of popular and policy attention. Some of this concern relates to the impact of high levels of migration on the social organization, including inequality, of local communities. A long tradition in the social sciences considers the impact of population change on a wide array of outcomes, including inequality. One view holds that Hispanic population growth will result in increased inequality because it increases and concentrates the number of low-skilled poorly paid workers that then heightens wage competition among low-skilled workers, driving wages down and poverty up. An alternative view, argues that the human capital distribution of local areas is a response to market forces rather than a determinant of them. That is, larger institutional, structural and macroeconomic factors drive inequality patterns to a greater degree than the human capital characteristics of migrants.

The key to adjudicating these two views is to separate the impact of Hispanic growth per se from overall processes generating population growth and development more generally. Borrowing from urban-based research our study takes a counterfactual approach, comparing inequality and its correlates across established Hispanic, rapidly growing Hispanic, rapidly growing non-Hispanic, and slow-growing or declining rural counties. Our results show that income inequality did indeed increase more rapidly in new rural Hispanic destinations during the 1990s compared to slowly growing or declining counties. However, inequality was no greater in rapidly growing Hispanic areas than in areas that were rapidly growing without Hispanic migrants. Multivariate results show that both supply and demand characteristics affected inequality. In particular, rapid growth was associated with increased representation of *both* tails of the educational distribution; thus growth in the highly educated workforce was a central element of rising inequality in rapidly growing areas. After controlling for education, foreign-born population growth had no independent effect on inequality.

Industrial change also contributed to inequality above and beyond supply-side changes in human capital. Consistent with research stressing industrial restructuring for understanding inequality we find that all industrial sector growth contributed to inequality relative to manufacturing. Agricultural and

construction industries have been especially important. That agriculture still attracts Hispanics to rural areas, including new destinations, partly explains the association between Hispanic population growth and rural inequality. Likewise, rapid expansion of the construction industry is an important source of inequality in rapid-growth rural counties.

Thus, consistent with structural interpretations, our results imply that growth in general engenders widening income inequality, not Hispanic growth per se. Most rural counties struggle to maintain their population size and economic dynamism. The counterfactual comparison suggests that stagnant counties do not experience increased inequality. However, counties that grow economically and demographically can expect considerable increases in inequality, irrespective of whether population growth is attributable to Hispanics.

These findings also have implications for the future of rural America. Population change portends significant racial, ethnic and socioeconomic change for rural areas, raising issues of ethnic conflict, immigrant adaptation and public sector burdens. The emphasis on race and ethnicity rather than socioeconomic origin in affecting social outcomes undergirds much negative representation of these population trends on the United States (Huntington 2004). Our study, however calls into question this interpretation by highlighting that general economic processes associated with growth rather than race/ethnicity, account for substantial changes in rural income inequality. To the extent that our findings can be generalized to other social effects they suggest that migrants' ethnic origin might be accidental in explaining social ills in rural areas and that a focus on class and industrial structure might be more useful for understanding the trajectory of rural development, Hispanics' socioeconomic outcomes and the forces driving population change.

Notes

1. "Nonmetropolitan" areas follow the Office of Management and Budget definition based on population and commuting patterns. A metropolitan area consists of one or more core counties with an urbanized area of 50,000 or more inhabitants, together with surrounding counties with metropolitan characteristics such as commuting patterns and population density and growth. Nonmetropolitan areas consist of all other counties and contain only open country, small towns or small cities. The term "nonmetropolitan" is distinct from "rural," which refers to a U.S. Census Bureau definition for places with fewer than 2,500 inhabitants. In this article, however, we use the term "rural" in its general context.
2. Regions are census regions, except for the Southwest which borrows from the West and the South and consists of Arizona, California, Colorado, New Mexico and Texas.
3. We also tested an extended six-group typology that distinguished, within Established Hispanic counties, those with constant and declining Hispanic representation and, within Slow Growth and Decline counties, those with stable and declining populations. The extended typology did not illustrate inequality trends more effectively than our more parsimonious typology.

4. Estimates are available upon request.
5. We did so by computing the ratio of meat processing to non-durable goods manufacturing employment using County Business Patterns data for 1990 and 2000 and applying this ratio to U.S. Census data for the respective years. We use the same process with CBP data to distinguish nondurable from durable goods manufacturing employment for the 2000 SF3 data which, unlike the 1990 STF3 data, do not make this distinction.

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Appendix 1. Descriptive Statistics by County Type

	All Nonmetro Counties		Established Hispanic		Rapid Growth Hispanic		Rapid Growth Non-Hispanic		Slow Growth & Decline	
	Mean	s.e.	Mean	s.e.	Mean	s.e.	Mean	s.e.	Mean	s.e.
Change in gini coefficient	.42	(3.06)	-.13	(3.51)	1.08	(3.09)	1.01	(3.03)	.27	(2.94)
County Type										
Established Hispanic	.10	(.30)								
Rapid growth Hispanic	.12	(.33)								
Rapid growth non-Hispanic	.12	(.33)								
Slow growth & decline (reference)										
Supply Side Conditions: Change in Population Composition										
Change in Educational Composition										
Less than high school	-8.25	(3.54)	-5.93	(4.82)	-6.74	(3.86)	-9.01	(3.83)	-8.76	(2.91)
Completed High School (reference)										
College or more	2.63	(2.07)	2.38	(2.91)	2.59	(2.31)	3.10	(2.34)	2.59	(1.77)
Change in % foreign born	.98	(1.92)	2.38	(3.56)	3.41	(2.67)	.58	(.74)	.38	(.65)
Change in Age and Family Composition										
% Ages 65 and older	-.21	(1.59)	.00	(2.24)	-.86	(1.48)	-.54	(1.51)	-.06	(1.46)
% Female labor force participation	5.53	(3.51)	5.17	(3.43)	4.61	(3.68)	5.27	(3.41)	5.80	(3.48)
% Female-headed households	3.13	(1.69)	3.20	(1.72)	3.13	(1.61)	2.76	(1.45)	3.20	(1.74)
Demand Side Conditions: Industrial Change										
Industries with Declining Representation										
Agriculture/ Mining	-8.37	(5.01)	-6.92	(7.82)	-8.73	(4.34)	-10.00	(3.94)	-8.22	(4.65)
Durable goods manufacturing	-1.09	(3.96)	-.60	(2.75)	-1.42	(3.60)	-2.00	(4.22)	-.93	(4.11)
Non-Durable Goods Manufacturing (reference)										
Wholesale and retail trade	-4.57	(3.28)	-5.51	(3.76)	-4.95	(3.25)	-4.75	(3.44)	-4.32	(3.14)
Industries with Growing Representation										
Construction	5.62	(5.08)	2.70	(8.09)	6.76	(3.49)	8.82	(3.18)	5.26	(4.65)
Meat processing	.05	(.44)	.08	(.42)	.23	(1.07)	.02	(.22)	.02	(.21)
Low-skill services	7.70	(2.51)	7.74	(2.81)	7.50	(2.20)	8.44	(2.91)	7.59	(2.41)
High-skill services/ Public sector	1.97	(3.49)	2.56	(4.04)	1.65	(3.02)	1.66	(3.42)	1.99	(3.48)

continued on the following page

Appendix 1 *continued*

	All Nonmetro Counties		Established Hispanic		Rapid Growth Hispanic		Rapid Growth Non-Hispanic		Slow Growth & Decline	
	Mean	s.e.	Mean	s.e.	Mean	s.e.	Mean	s.e.	Mean	s.e.
Other Sources of Heterogeneity										
Change in Minority Composition										
% Black	.06	(1.47)	.22	(1.56)	-.36	(1.57)	-.14	(2.06)	.16	(1.27)
Change in Employment Characteristics										
Unemployment	-.93	(2.32)	-.73	(2.23)	-.22	(2.99)	-1.21	(2.02)	-1.04	(2.22)
Log of median family income	.40	(.09)	.39	(.10)	.40	(.08)	.43	(.08)	.40	(.09)
Total employment	.01	(.02)	.01	(.02)	.02	(.03)	.03	(.03)	.01	(.01)
% Employed fulltime	4.87	(3.69)	3.78	(5.20)	4.17	(3.70)	5.73	(3.72)	5.01	(3.33)
Region										
Midwest	.36	(.48)	.05	(.21)	.23	(.42)	.22	(.41)	.46	(.50)
East/ Southeast	.40	(.49)	.03	(.18)	.40	(.49)	.53	(.50)	.43	(.50)
West	.10	(.30)	.09	(.29)	.17	(.37)	.17	(.37)	.08	(.27)
Southwest (reference)										
N	2,303		235		283		282		1,503	